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Docket Number F-147
Pitney Bowes Inc.
35 Waterview Drive
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Shelton, CT 06484-8000
October 17, 2000

BOX PATENT APPLICATION
ASSISTANT COMMISSIONER FOR PATENTS
WASHINGTON, D.C. 20231

Sir:

Transmitted herewith for filing is the patent application of

Inventor: Robert J. Johnson et al.

For: **METHOD FOR PRINTING A LABEL PAIR WITH INFORMATION-BASED INDICIA PROGRAM (IBIP) INDICIA**

Enclosed are:

14 pages comprising the specification, claims, and abstract.
4 sheets of formal drawings.
A Declaration and Power of Attorney.
Certificate of Mailing by Express Mail.
A Recordation of Assignment Request and an Assignment of the invention to Pitney Bowes Inc., 1 Elmcroft Road, Stamford, Connecticut 06926-0700.
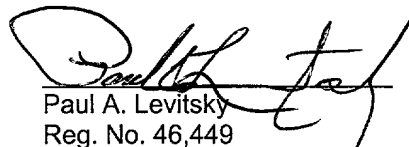A Receipt Postcard.

Fees calculated as follows:

Basic Fee							$ 710.00
Claims Fee	Number Filed		Number Extra		Rate		
Total Claims	10	- 20 =	0	X	$18.00	=	$ 0.00
Independent Claims	2	- 3 =	0	X	$80.00	=	$ 0.00
Multiple Dependent Claims					$260.00	=	$
					Total Filing Fee		$ 710.00

Please charge our Deposit Account Number **16-1885** in the amount of $ 710.00 for the filing fee.

The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Account Number **16-1885**.

A copy of this Transmittal Letter is enclosed for use in charging the Deposit Account.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of:) Attorney Docket No.: F-147

Robert J. Johnson et al.   ) Group Art Unit: TBD

Serial No.:   ) Examiner: TBD

Filed: Concurrently herewith   ) Date: October 17, 2000

Title: METHOD FOR PRINTING A LABEL PAIR WITH INFORMATION-
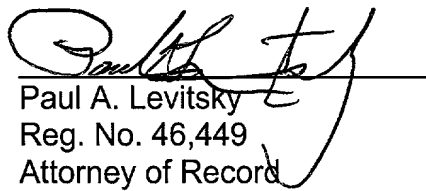   BASED INDICIA PROGRAM (IBIP) INDICIA

CERTIFICATE OF MAILING BY EXPRESS MAIL

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

I hereby certify that the attached Transmittal Letter, Patent Application, Declaration, Formal Drawings, Recordation of Assignment, and Assignment were deposited with the U.S. Postal Service for delivery by Express Mail on October 17, 2000. The number of the Express Mail mailing label is EE628583546US.

Respectfully submitted,

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F-147

Express Mail Label No. EE628583546US

METHOD FOR PRINTING A LABEL PAIR WITH
INFORMATION-BASED INDICIA PROGRAM (IBIP) INDICIA

TECHNICAL FIELD

The present invention relates generally to a method of printing labels and deals more particularly with a method of printing a label pair with Information-Based Indicia Program (IBIP) indicia.

BACKGROUND OF THE INVENTION

The United States Postal Service (USPS) initiated the Information-Based Indicia Program (IBIP) to support new methods of applying postage to mail. As part of the program, the USPS IBIP specification requires that the destination address information be embedded as part of and incorporated into machine readable form, such as a two-dimensional barcode indicia in addition to a user readable form. When a mail piece is printed on a single element such as an envelope or shipping label the printing subsystem consequently matches the destination address and the indicia elements. However, when the destination address resides on a separate label from the indicia destination address label, the user of the system must bear the burden of matching the corresponding labels. It is sometimes difficult to match these labels when more than one destination address and corresponding indicia pair is printed at once for example, on a sheet of labels having different addresses. While a user can clearly read the destination address, the IBIP is a machine-readable code and thus cannot be easily differentiated from other IBIP labels.

Accordingly, it is an object of the present invention to provide a method of printing a label pair with IBIP indicia.

It is a further object of the present invention to provide a method of printing a label pair with IBIP indicia having a unique identifying mark for use in matching the destination address label and the corresponding IBIP indicia destination address label.

5　　　　It is yet a further object of the present invention to provide a method of printing a label pair with IBIP indicia using a number of different label stocks.

SUMMARY OF THE INVENTION

10　　　　The method of the present invention substantially obviates, if not entirely eliminates, the disadvantages and shortcomings of matching destination address labels and corresponding IBIP indicia labels printed on the label stock. The method of the present invention accomplishes this by providing a unique identifying mark for each label pair printed.

15

In its broader aspect, the invention provides a method for printing an indicia on a label in a system for printing one or more labels. The method includes the steps of reading a label configuration file wherein the label configuration file is indicative of one or more label stocks, selecting a label stock, reading a definition file associated with the

20　　selected label stock, selecting the number of labels to be printed, printing the number of labels in accordance with the definition file, such that a label pair made up of a destination address and a corresponding indicia is printed wherein the corresponding indicia further comprises a destination barcode and tagging the label pair with a unique identifying mark.

25

The method further includes the destination barcode being an encryption of the destination address.

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Express Mail Label No. EE628583546US

A further aspect of the invention includes printing the destination address label first and printing the corresponding indicia label subsequently.

A yet further aspect of the invention includes tagging the label pair with a coding identifier in a predetermined inconspicuous area of the label pair.

These and other objects and features of the method of the present invention will become more apparent from an understanding of the following detailed description of a preferred embodiment when considered in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 shows schematically a label stock having N rows by M columns of labels;

Fig. 2 shows a label stock wherein the matching label pairs are printed horizontally;

Fig. 3 shows a label stock wherein the matching label pairs are printed vertically;

Fig. 4 shows a destination address label and a corresponding destination address IBIP indicia label defining a label pair;

Fig. 5 shows one embodiment of a label pair tagged with a numeric identifying mark in the lower right corner of the labels;

Fig. 6 shows another embodiment of a label pair tagged with a letter character identifying mark in the top left corner of the labels;

Fig. 7 shows a further embodiment of a label pair tagged with a watermark on the left side of the labels;

Fig. 8 shows a yet further embodiment of a label pair tagged with a tick hashing line on the left side of the labels; and

Fig. 9 is a flow chart of one embodiment of the method of the present invention of printing a label pair with IBIP indicia.

DETAILED DESCRIPTION

Turning now to the drawings and considering the present invention in further detail, **Fig. 1** shows schematically a representative label stock generally designated **10** having *N* rows by *M* columns of labels **12**. The labels **12** are typically self-adhesive and are carried on a releasable sheet **14** for easy removal by an operator for transferring and affixing to a surface such as the face of a mail piece, envelope or package. Different label stocks have differing numbers of rows and columns and differing sizes of labels carried thereon. Typically, the attributes of a given label stock are predefined as to the size of the sheet **14**, the number of labels **12**, the size and shape of the label **12**, the print area of the label and the spacing of the labels in each position in each row and column relative to one another, the top **16**, bottom **18** and side margins **20** between the label edges with respect to the edges of the sheet **14**. Additionally, the printing area of the label is defined and the required spacing between print areas is also defined. Typically, a manufacturer of such label stock provides the pertinent attribute information for a user. A number of commercially available different label stocks are available, and each typically have the label stock attributes specified by the manufacturer. In addition to the commercially available predefined label stock, it is also contemplated that custom-sized labels and label stock may be employed with the method of the present invention.

Depending upon the label stock chosen, the user may desire to print the matching label pairs horizontally as illustrated in **Fig. 2**, wherein the label stock generally designated **22**, has four columns by four rows of labels. In Fig. 2, the label stock **22** has

5   illustrated therein label **24** identified as "DEST 1," and a label **26** located horizontally and immediately adjacent to label **24** designated "IND 1." The label **24** has printed thereon the user-readable destination address and label **26** has printed thereon the corresponding IBIP indicia with the address information embedded therein. The sequence of printing the destination label and its corresponding indicia label as shown in

10   Fig. 2 is printed horizontally starting in the upper left corner moving to the lower right corner in sequence.

Fig. 3 illustrates a further label stock generally designated **28** wherein the label pairs are printed vertically. Alternatively, the label stock **28** may be rotated to print the

15   label pairs horizontally for convenience of the user.

Turning now to **Fig. 4**, a label pair generally designated **30** is made up of a destination address label **32** wherein a user can clearly read the destination address and a corresponding destination IBIP indicia label **34** wherein the destination address is

20   embedded and encrypted in a machine-readable two-dimensional barcode **36**. In situations where the label pairs **30** are printed for application to a single mail piece, a user has no difficulty in associating the destination IBIP indicia label with the user-readable destination address label. However, if a number of label pairs are printed on a label stock, for example, the user will encounter substantial difficulty in associating a

25   corresponding destination IBIP indicia label with a destination address label in the absence of some identifier used to identify each of the labels in a label pair.

Turning now to **Figs. 5** through 8, exemplary identifiers are illustrated therein as applied to multiple labels to provide a visual indication to a user for associating or matching a destination address label with its corresponding destination IBIP indicia label. For purposes of the disclosure, two label pairs are illustrated in Figs. 5 through 8, it being

5 understood that any number of label pairs up to the maximum number of label pairs that can be printed on a label stock may be identified with the method of the present invention.

Considering Fig. 5, label pairs **38, 40** are illustrated therein with the label pair **38**

10 having a user-readable destination address label **42** and a corresponding destination IBIP indicia label **44** and the label pair **40** having a user-readable destination address label **46** and a corresponding destination IBIP indicia label **48**. The label pair **38** further includes a numeric identifying mark in the lower right hand corner of each of the labels **42, 44** wherein the identifying mark **50** of the label **42** matches the identifying mark **52** of

15 the label **44**. Likewise, the identifying mark **54** of label **46** matches the identifying mark **56** of label **48**. Each of the label pairs printed on the label stock will likewise have unique identifiers for each label pair so that the destination address label can be matched without difficulty by a user to a corresponding destination IBIP indicia label.

20 **Fig. 6** shows another embodiment of a label pair tagged with a letter character identifying mark in the top left corner of each label wherein the label pairs **58, 60** are printed vertically on the label stock. The label pair **58** is made up of the destination address label **62** and the corresponding destination IBIP indicia label **64**, wherein the identifying letter character **66** of label **62** matches the identifying letter character **68** of the

25 label **64**. Label pair **60** likewise includes a letter character identifying mark **70** on the destination address label **72** and a matching letter character identifying mark **74** on the corresponding destination IBIP indicia label **76**. Again, as in Fig. 5, the identifying mark

of each label pair is unique relative to the identifying marks of other label pairs printed on the label stock.

5   Turning now to **Fig. 7**, the labels **78, 80** of label pair **82** and labels **84, 86** of label pair **88** are illustrated with a watermark identifying character printed in the left side margin of the respective labels, wherein the watermark **89** of label **78** matches the watermark **90** of label **80**, which allows a user to associate the destination address label **78** with a corresponding destination IBIP indicia label **80**. Likewise, the label pair **88** utilizes a different watermark than the watermark used on the label pair **82**. The label **84** includes
10   a watermark **92** that matches the watermark **94** of label **86** to allow the user to identify the destination address label and corresponding destination IBIP indicia label **86** of label pair **88**.

Turning now to **Fig. 8**, a yet further embodiment of a label pair tagged with a
15   unique identifying mark is illustrated therein, wherein the label pair **96** has a single tick hash line **98, 100** on the destination address label **102** and corresponding destination IBIP indicia label **104**, respectively. The label pair **106** is identified by means of two tick hash lines **108, 110** of the destination address label **112** and corresponding destination IBIP indicia label **114**, respectively.

20

Turning now to **Fig. 9**, a flow chart of one embodiment of the method of the present invention of printing a label pair with IBIP indicia is illustrated therein and generally designated **120**. The method of the present invention is preferably utilized in a system for printing one or more labels; however, as will become readily apparent from
25   the following description, the method of the present invention may be utilized for identifying multiple labels in a label group with encrypted or embedded information in a barcode indicia or other machine readable indicia. In Fig. 9, the printing system initiates activity as represented by the "START" step **122**. The printing system typically has a

controller which operates in accordance with a set of instructions to cause the printing on a substrate. The system may include means for stacking and feeding the substrate such as the label stocks into the printing system and carry out the required printing activities as directed by a user and the instructions operating the controller. It is further typical that

5   the printing system has a memory means for storing information relative to the various substrates, such as label stocks, which are fed to the printing system in addition to the information that is intended to be printed upon the substrates. The next step after the system is started is to read a label configuration file as indicated by the step **124**. After the label configuration file has been read, the system next determines the various label

10   stocks supported as indicated by the step **126**. The user then selects a label stock corresponding to the label stock to be printed upon as indicated by in step **128**. The system will next determine if the selected label stock is supported as indicated by the decision step **130**. If the desired label stock selected is not supported, a signal **132** is output to a display **134** with an appropriate error message to alert the operator that the

15   label stock selected is not supported by the printing system. The system then exits the instruction sequence as indicated by the "EXIT" block **136**.

If in the decision step **130** it is determined that the label stock selected is supported, the label definition file corresponding to the label stock is read as indicated by

20   in step **138**. The label definition file includes all of the information relative to the various attributes of the label stock, including the number of labels, dimensional aspects of the labels, spacing, print areas and so forth, as well understood by those skilled in the art of defining attributes for such label stocks.

25   Once the system determines the attributes of the particular label stock selected, information as to whether to print the label pair made up of the destination address label and a corresponding destination IBIP indicia label horizontally or vertically is determined in step **140** from information defined in the label configuration file previously read by the

instruction set. The desired number of labels to be printed is selected as indicated in the "SELECT N NUMBER OF LABEL PAIRS" step **142**. The system now sets up the labels in accordance with the information in the label configuration file and in accordance with the N number of label pairs to be printed as indicated by the "SET UP LABELS" step

5   **144**.

The system will then begin to print the label stock in accordance with the setup information and will print the first destination address label as indicated by the "PRINT DESTINATION ADDRESS LABEL WITH MATCH TAG" step **146**. Once the destination

10   address label is printed, the corresponding destination IBIP indicia label is printed as indicated by the "PRINT DESTINATION IBIP INDICIA LABEL WITH MATCH TAG" step **148**. The label pair printed in steps **146** and **148** are tagged with a unique identifying mark as described above. Although steps **146** and **148** are shown as two separate steps for purposes of explanation, in actuality the destination address and IBIP indicia labels

15   are done in one printing step. Each of the label pairs are printed and tagged with unique matching identifying marks in a similar manner, and the system will continue to print until the N number of label pairs have been printed, as indicated by the query step **152**. If it is determined in the "N LABEL PAIRS PRINTED?" query step **152** that the N number of label pairs have not been printed, a "NO" signal **154** is output to a query step **156** to

20   determine if all of the labels on the sheet have been printed as indicated by the "ALL LABELS ON SHEET PRINTED?" query step **156**. If there are remaining labels on the sheet to be printed, a "NO" signal **160** is output to the steps **146, 148** to return to printing the next label pair with its corresponding unique identifying mark.

25   If in the query step **152**, it is determined that the N number of label pairs have been printed, a "YES" signal **166** is output, and the system advances to the "END SEQUENCE" step **168** to indicate that the printing cycle is completed. If in the query step **156** it is determined that all labels on the sheet have been printed, a "YES" signal

162 is output to reset the match tags for the next sheet of label stock as indicated by the "RESET MATCH TAGS FOR NEXT SHEET" step **158**. If it was determined in the query step **152** that the desired *N* number of label pairs have not been printed, the system returns via **164** to the steps **146, 148** to return to printing the next label pair after the match tags are reset to begin the loop once again.

It should be noted that in the method illustrated in the flow chart **120** of Fig. 9, the identifying marks for the label pairs of a subsequent sheet of label stock can be made to be unique from the previous identifying marks of the label pairs printed on the immediately just printed sheet of label stock in a printing run. The system could also be set to reset to repeat the match tags for the subsequent sheet of label pairs printed on the subsequent sheet of label stock, although it is less desirable to repeat like identifying marks on multiple sheets in the same printing run.

It is to be understood that the method of the present invention is not to be considered as limited to the specific embodiments described above and shown in the accompanying drawings, which merely illustrate the best mode presently contemplated for carrying out the method of the invention and which is susceptible to such changes as may be obvious to one skilled in the label-printing art, but rather that the invention is intended to cover all such variations, modifications and equivalents thereof as may be deemed to be within the scope of the claims appended hereto.

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What is Claimed is:

1.   A method for printing an indicia on a label in a system for printing one or more labels comprising the steps of:

(a)   reading a label configuration file wherein said label configuration file is indicative of one or more label stocks;

(b)   selecting a label stock;

(c)   reading a definition file associated with said selected label stock;

(d)   selecting an amount of labels to be printed;

(e)   printing said amount of labels in accordance with said definition file such that a label pair comprising a destination address and a corresponding indicia is printed, wherein said corresponding indicia further comprises a destination barcode; and

(f)   tagging said label pair with a unique identifying mark.

2.   A method for printing an indicia on a label as defined in claim 1, wherein the step of printing said destination barcode further comprises printing an encryption of said destination address.

3.   A method of printing an indicia on a label as defined in claim 1, wherein the step of printing said amount of labels further comprises printing said destination address first and printing said corresponding indicia subsequently.

4.   A method of printing an indicia on a label as defined in claim 3, wherein said destination barcode is a two-dimensional barcode corresponding to the United States Postal Service (USPS) Indicia-Based Information Program (IBIP).

5.   A method of printing an indicia on a label as defined in claim 1, wherein the step of tagging said label pair includes color coding each of said label pairs with a different color.

6.   A method of printing an indicia on a label as defined in claim 1, wherein the step of tagging said label pair includes applying a coding identifier in a predetermined inconspicuous area of said label pair.

7.   A method of printing an indicia on a label as defined in claim 6, wherein the coding identifier is a watermark.

8.   A method of printing an indicia on a label as defined in claim 6, wherein the coding identifier is an alphanumeric character.

9.   A method of printing an indicia on a label as defined in claim 6, wherein the coding identifier is a tick hashing line.

10.   A method for printing an indicia on a label in a system for printing one or more labels comprising the steps of:

(a) reading a label configuration file accessible by said system wherein said label configuration file is indicative of one or more label stocks supported by said system;

(b) selecting a label stock from said label configuration file;

(c) reading a definition file associated with said selected label stock;

(d) selecting an amount of labels to be printed;

(e) printing said amount of labels in accordance with said definition file such that a label pair comprising a destination address and a corresponding indicia is printed, wherein said destination address is printed first and said corresponding indicia is printed subsequently, wherein said corresponding indicia further comprises a destination barcode, said destination barcode further comprising an encryption of said destination address; and

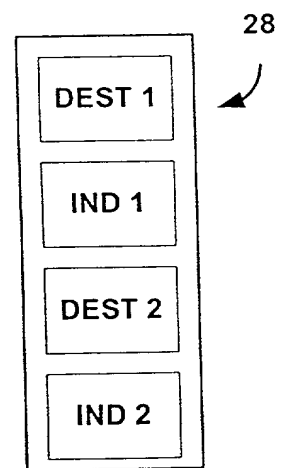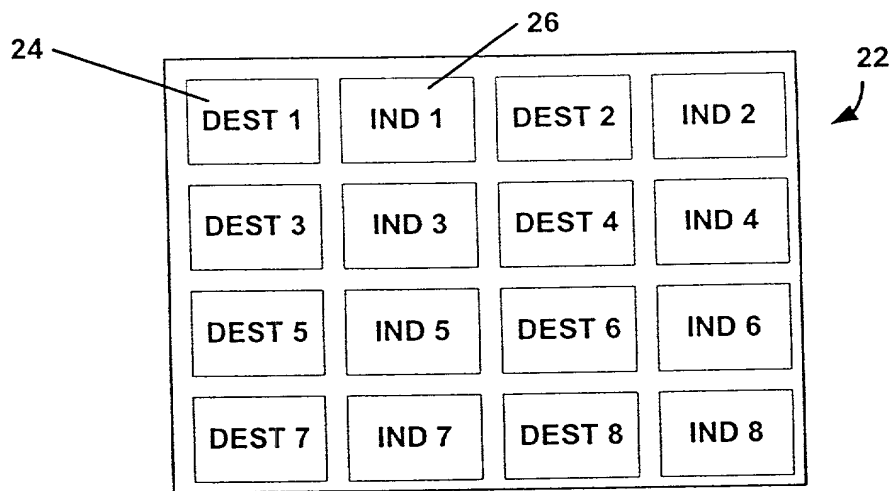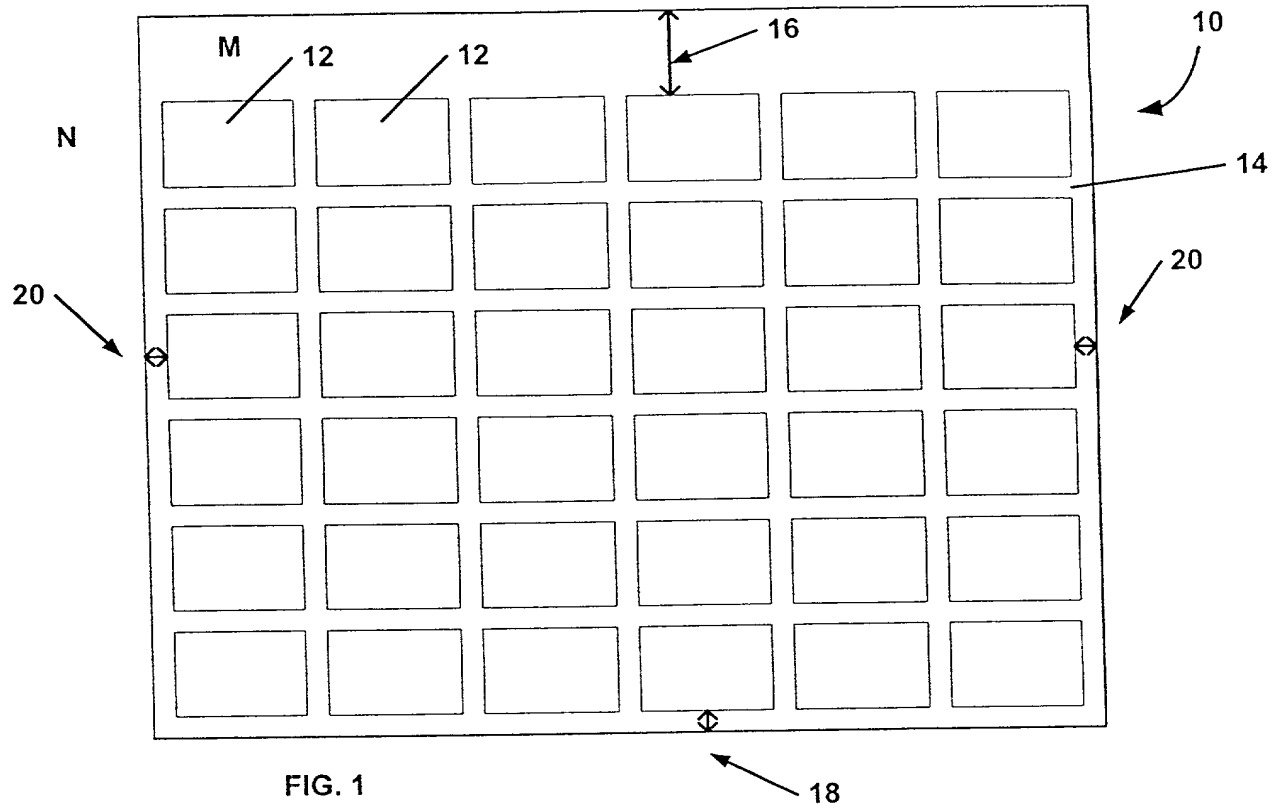(f) tagging said label pair with a unique identifying mark.

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METHOD FOR PRINTING A LABEL PAIR WITH
INFORMATION-BASED INDICIA PROGRAM (IBIP) INDICIA

5

ABSTRACT OF THE DISCLOSURE

A method for printing a label pair made up of a destination address label and a corresponding destination Information-Based Indicia Program (IBIP) indicia label on a label stock in a system for printing one or more labels uses a unique identifying mark for each label of the label pair. The unique identifying marks allow a user to match a destination address label to a corresponding destination address IBIP indicia label. The software defines the method used to generate the unique identifying marks and the positioning of the labels with respect to each other.
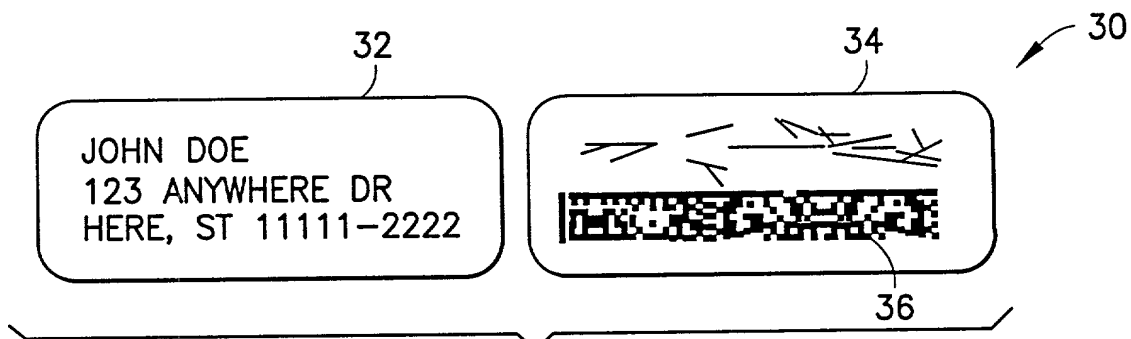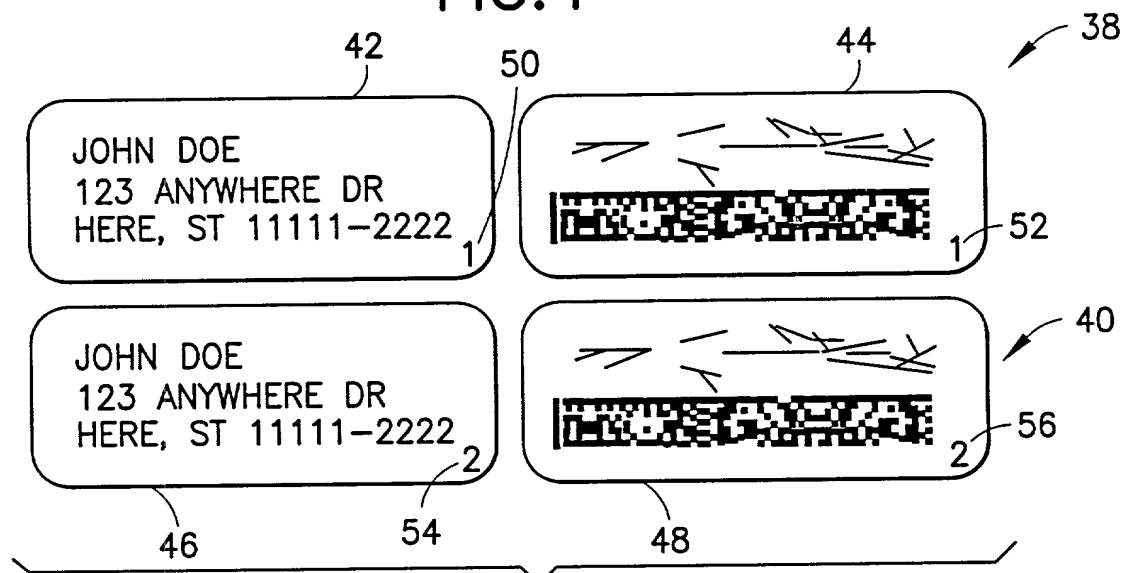
10

M

N

12

12

16

10

14

20

20

18

FIG. 1

24

26

22

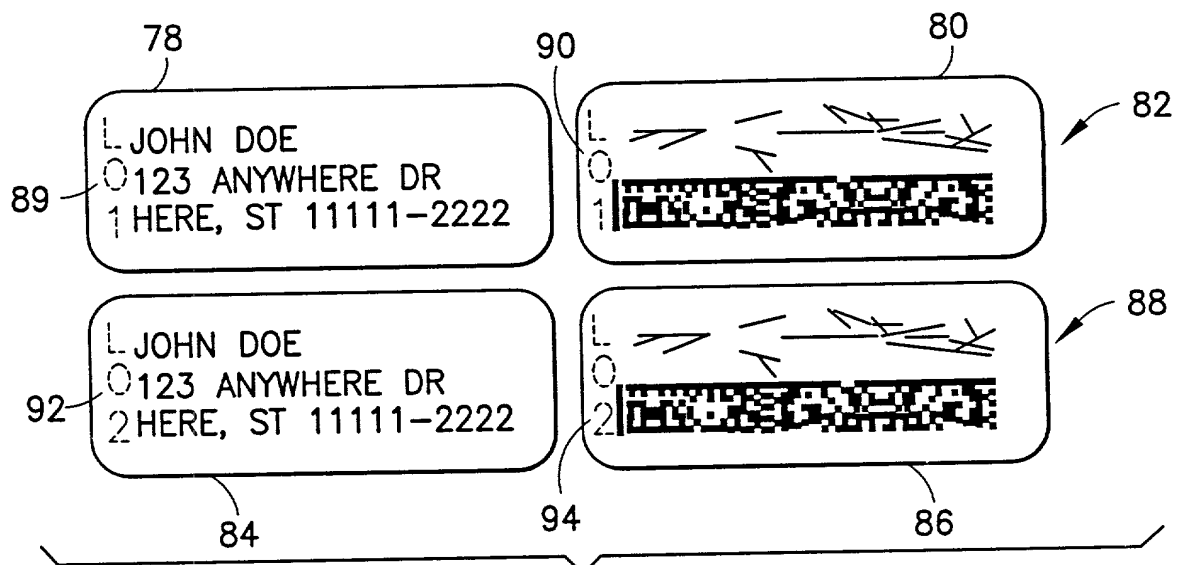| DEST 1	IND 1	DEST 2	IND 2
DEST 3	IND 3	DEST 4	IND 4
DEST 5	IND 5	DEST 6	IND 6
DEST 7	IND 7	DEST 8	IND 8

FIG. 2

28

DEST 1
IND 1
DEST 2
IND 2

FIG. 3

30

JOHN DOE
123 ANYWHERE DR
HERE, ST 11111-2222

32

34

36

FIG.4

38

42

JOHN DOE
123 ANYWHERE DR
HERE, ST 11111-2222   1

50

44

52
1

46

JOHN DOE
123 ANYWHERE DR
HERE, ST 11111-2222   2

54

48

40

56
2

FIG.5

58

66 A JOHN DOE
123 ANYWHERE DR
HERE, ST 11111-2222

62

70 B JOHN DOE
123 ANYWHERE DR
HERE, ST 11111-2222

72

60

68 A

64

74 B

76

FIG.6

FIG.7

FIG.8

120

START — 122

READ LABEL CONFIGURATION FILE — 124

DETERMINE LABEL STOCK SUPPORTED — 126

SELECT LABEL STOCK — 128

LABEL STOCK SUPPORTED ? — 130

NO — 132

ERROR MESSAGE — 134

EXIT — 136

YES

READ LABEL DEFINITION FILE — 138

PRINT LABEL PAIR HORIZONTAL /VERTICAL ? — 140

SELECT N NUMBER OF LABEL PAIRS — 142

SET UP LABELS — 144

PRINT DESTINATION ADDRESS LABEL WITH MATCH TAG — 146

PRINT DESTINATION IBIP INDICIA LABEL WITH MATCH TAG — 148

N LABEL PAIRS PRINTED ? — 152

NO — 154

ALL LABELS ON SHEET PRINTED ? — 156 / 160

NO

YES

YES

RESET MATCH TAGS FOR NEXT SHEET — 158 / 162

164

166

END SEQUENCE — 168

Fig. 9

As below named inventors, we hereby declare that:

our residences, post office addresses and citizenships are as stated below next to our names;

we believe that we are the original, first and joint inventors of the subject matter which is claimed and for which a patent is sought on the invention entitled

METHOD FOR PRINTING A LABEL PAIR WITH INFORMATION-BASED INDICIA PROGRAM (IBIP) INDICIA

described and claimed in the attached specification;

we have reviewed and understand the contents of the above-identified specification, including the claims;

we acknowledge our duty to disclose to the Patent and Trademark Office all information known to us to be material to the patentability of this application as defined in Title 37, Code of Federal Regulations, section 1.56; and
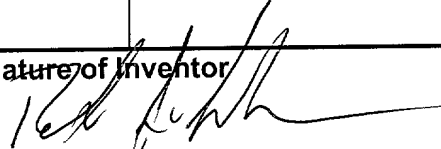
we do not know and do not believe the invention was ever known or used in the United States of America before our invention thereof, or patented or described in any printed publication in any country before our invention thereof or more than one year prior to this application, that the invention was not in public use or on sale in the United States of America more than one year prior to this application, that the invention has not been patented or made the subject of an inventor's certificate issued before the date of this application in any country foreign to the United States of America on any application filed by us or our legal representatives or assigns more than twelve months prior to this application, and that no application for patent or inventor's certificate on this invention has been filed in any country foreign to the United States of America prior to this application by us or our legal representatives or assigns.
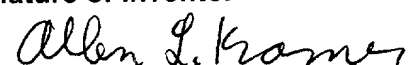
We hereby appoint the following attorneys and/or agents to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith;

Paul A. Levitsky   Reg. No. 46,449
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We hereby declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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Signature of Inventor	Date
	10/13/00

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Residence & Citizenship	City Middletown		State CT	Citizenship USA
Post Office Address	Street Address 6 Round Hill Road	City Middletown	State CT	Zip Code 06457-6118

Signature of Inventor	Date
Allen L. Kramer	10/10/2000

DECLARATION AND POWER OF ATTORNEY Patent Application		Attorney's Docket Number F-147		
		Page 3 of 3		
FULL NAME	Last Pettner	First Gabriel		Middle E.
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Post Office Address	Street Address 613 Avon Drive	City Orange	State CT	Zip Code 06477
Signature of Inventor			**Date** 10/2/200	